

## WAVEGUIDE GRATING ARRANGEMENT USING A SEGMENTED REFLECTOR

### Abstract

5           An optical imaging arrangement includes a wavelength router having (1)  
N waveguides connected to different locations of the input curved boundary of the  
router, (2) a grating that forms multiple paths through the router and which  
transforms a particular wavelength applied to one of the N waveguides into N  
interleaved sets of equally spaced output images corresponding to the different  
10 orders of the grating (3) an output curve illuminated by the various images and (4)  
N interleaved sets of reflective elements placed along the output curve with  
properly chosen periodicity, such that all significant orders of each set of images  
are reflected back through the arrangement, so as to effectively produce a single  
input reflection in only one of the N waveguides of the arrangement, and the  
15 particular waveguide is determined by the phase shifts produced by the sets of  
reflective elements.